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ABSTRACT

This student guide is intended to assist persons employed as supervisors to develop and participate in quality circles. Discussed in the first three sections are the following topics: the purpose of quality circles (what a quality circle is, why quality circles developed, how they work, and the roles of various quality circle participants); procedures for introducing quality circles (things that can go wrong, requirements for success, techniques for quality circle leaders, ways of launching quality circles); and the benefits of quality circles (benefits of involvement, benefits to supervisors, the importance of publicity, and ways of assessing benefits). Each of these sections contains an introduction, an instructional text interspersed with reinforcing learning activities, and a summary for each section. The fourth part of the guide includes a series of performance checks summary. The fourth part of the guide includes a series of performance checks (an end check, a tutor check, and a work-based project). (MN)

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An Open Tech Project

SUPERVISING

TECHNICAL ASPECTS OF SUPERVISION

39: Quality Circles

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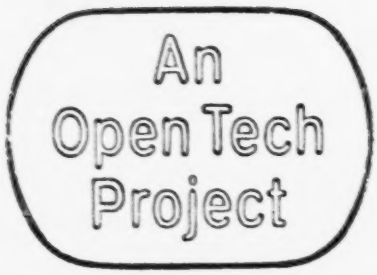
39: QUALITY CIRCLES

Ysanne Carlisle



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Ysanne Carlisle
Quality Circles (Number 39 in the CHOICE SERIES of learning units)

Series Editor: Harry V Pardue
Northern Regional Management Centre.

WORKING GUIDE TO THIS UNIT IN YOUR DEVELOPMENT PROGRAMME

This Unit is now your personal property - it's not for handing back to your training officer or to a tutor. It is your working book.

The Contents will increase in value to you each time you write on one of its pages. This is a working text for your personal notes - without notes its value is limited.

Qualifications forget about certificates and diplomas - you don't need them for this programme. What you do need is the wish:-

* to do your job better
* for personal development

Your study time is really up to you - we guess you will need about 8 hours in total. But it's your time - spend as long as you like.

How am I doing? you can judge for yourself by checking out how well you cope with the tasks we call Activities and Self Checks which occur throughout the unit. You can also get the Tutor Check and/or the Work Based Project to your tutor for an unbiased view of your progress.

Work Pace it's really up to you and depends on your interest. However, if you do well on the Activities and Self Checks, you could afford to speed up a little. Of course, if you don't do as well as you expect then you could slow down a little or flick back into the unit for a quick review of the more difficult ideas.

When in doubt - ask or seek help from:

* your family and friends
* colleagues at work
* your company training staff
* other open learners
* your tutor, by phone, by a visit to your support centre or by dropping your tutor a line through the post.

Don't worry if what you learn doesn't seem to be of use to you now, remember that times change - it may be useful one day. Anyway, just knowing more improves personal confidence.

So now make a start:-

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39: QUALITY CIRCLES by Ysanne Carlisle

ABOUT THIS UNIT

Quality circles are a distinctive and very practical way of solving shop floor problems. After all it is the person in the thick of things who may well know best what's going on, not necessarily an expert several stages removed from where the work is being done. Quality circles have been tried successfully in many companies. Some have failed, but many more have succeeded, even though in some organisations, such as Rolls Royce, for example, they are called a different name - consultative groups. As a supervisor, you are responsible for your work team. If you become involved in quality circles, you'll be a central figure, and are likely to find that quality circles make your job as supervisor easier in a number of ways, which we'll look at in this unit.

IN THIS UNIT WE WILL

* develop your understanding of quality circles
* show how to introduce quality circles
* evaluate how they operate in practice
* show how quality circles can be of positive benefit to you as a supervisor and to the members of your work team

AUDIO TAPE Side 1

Before you continue through the unit, you should now listen to Side 1 of the audio tape that accompanies this unit. You will find it useful if you refer to the unit objectives shown below whilst you listen to the tape. You may wish to make the objectives clearer to yourself by making a note or two on the page as you listen.

OBJECTIVES

When you have completed this unit you will be BETTER able to:

* **understand what quality circles can achieve**
* **evaluate the benefits and problems of introducing and running quality circle groups**
* **use the basic techiniques for investigating problems which quality circles adopt**
* **decide whether or not quality circles could be helpful to you and to the members of your work team.**

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PART A WHAT QUALITY CIRCLES ARE

1 Introduction

In this part of the unit we'll look at what we mean by a quality circle, how quality circles differ from other similar developments, and consider how widespread their use is. We'll also take a brief look at how they developed in Britain, to give us a background for the parts that follow. This should help you as a supervisor to be better able to evaluate and understand quality circles, and see their relevance to you and your work team as you work through this unit. Perhaps you're involved in quality circles already. Is so, as supervisoryou could well find yourself in the role of circle leader. If you're not involved you could find yourself taking on this role if your company adopts quality circles.

2 What is a Quality Circle?

We could offer any number of definitions of a quality circle, but perhaps one of the best I have come across appeared in the 'Production Engineer' in 1979 and what it says describes quality circles in any industry. It says

REFERENCE 1
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> "Quality circles are basically small groups of workers, normally from the same workshop, who meet regularly to discuss quality control problems and their solutions, normally under the guidance of the workshop foreman".

Looking at this definition we can take out a list of important features

- the groups are small (usually between four and ten people)
- they are not controlled by managers above the level of supervisor
- they meet regularly
- they discuss problems which directly affect the workplace
- they consider solutions which directly affect the workplace

We should add to this list the fact that

- the groups often put their own solutions into practice
- group members should not be pressed men, but willing participants.

Let's look at this last statement about members being willing participants.

ACTIVITY 1
Time guide
3 mins

Jot down two reasons why you or the members of your work team might not want to be in quality circles. I've entered one myself to get you started.

* Solving quality problems is the job of the quality control department.

* _____

* _____

Typical responses might include the following.

- I've got enough to do as it is, without getting involved in something which means more meetings and more work.

- Solving quality problems is not something I've been trained to do.

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- Perhaps there have been a lot of "management gimmicks" as Mike Robson puts it, in his book on quality circles - projects that have been started only to fade within a few weeks. If this has happened in your company then it's only natural for people to be suspicious of yet another fad of the moment.

These sorts of reactions are not uncommon when the idea of quality circles is first mentioned in a plant. Let's think a little about the positive side of people getting involved, by doing another activity.

ACTIVITY 2
Time guide
3 mins

Answer either YES or NO to these three questions.

1 Are there a lot of small problems in your workshop which quality control never really get to hear about? YES/NO

2 Do you think that the people in your section know more about what really goes on than the technical experts who work at one removed from the job? YES/NO

3 Do minor problems with, for example, machine processes, manual operations or lack of information about requirements of other sections ever irritate you or your work team? YES/NO

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If you answered 'YES' to all or most of these questions, then we could argue a case for why people might willingly get involved in quality circle groups. Even if you only answered 'YES' to one of our questions, then it's worth considering how quality circles could make life easier. If we think about it, the people in your work team are the real experts in the work they do. They are close to the source of many of the problems which can arise and are therefore sometimes in a better position to identify problems than the specialist department. They may not have the same training to solve problems, but it doesn't take a lot of specialist knowledge to solve simple problems once they are identified. Anyway, it's often the case that difficult problems have simple solutions once we know what we're looking for and many companies now provide training for quality circle members who want to look at more advanced problems. Before we move on, let's review the main features of quality circles by doing our first self check.

SELF CHECK 1
Time guide
5 mins

The following statements describe some of the main features of quality control circles. Complete the statements with a suitable word or group of words.

a The size of the groups is _____.

b The groups meet _____.

c The groups are made up of people who work _____.

d The groups discuss problems which directly affect the _____.

e Group members should not be forced to take part but should be _____ participants.

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. In statement a) my choice is 'small'. The size of the group should not be too large. In statement b) my choice is 'regularly'. This could mean once a month or once a week, so long as the groups meet at regular intervals. In statement c) my choice is 'in the same workplace'. You may have written 'on the shop floor', or 'on the same section' or 'together'. The main point is that group members should be directly involved in the working areas which the quality circle considers. In statement d) my choice is workplace. The groups should be discussing problems which directly affected group members. In statement e) my choice is 'willing'. The group should be made up of people who really want to improve their own working conditions and solve the problemswhich can make their lives more difficult.

We can now make some general statements about quality circles.

- They recognise the fact that workteam members have brains as well as hands

- They give supervisors and their work teams the opportunity to use their expert knowledge of the areas in which they work

- They give supervisors and their workteams a chance to make real improvements which can benefit everyone, as we'll see later on.

3 Why Quality Circles Developed

Towards the end of the 1960 s when living standards where beginning to fall, many companies found that customers preferred foreign made products. The Japanese in particular began to sell larger numbers of cars, radios and other electrical goods in Britain. This forced many companies that hadn't really considered the wide number of things which the term QUALITY covers to rethink their quality control practices.

In Britain, the most common way of dealing with quality control has been to inspect products at regular intervals through the various stages of production. This approach keeps an eye on the defect rates AFTER they've occurred in the production process. In other words, inspection is a way of monitoring defect levels. One of the problems with inspection is that it doesn't ensure that the customer won't get a faulty product. In some industries, products must not be faulty. In other words the defect rate MUST be zero to the customer. A minor defect in say, the navigation system of a jet aeroplane could cost hundreds of lives.

ACTIVITY 3
Time guide
1 min

Read the statement below, and decide whether or not you think it's TRUE or FALSE by writing true or false in the space provided.

> The way around the problem of needing to make sure that the customer never receives a faulty product would be to inspect EVERY product. In other words, carry out a 100% inspection. _____

If this statement seems reasonable to you, you will have entered the work TRUE beside it, but let's think for a moment about the possibility of error even in a 100% inspection.

ACTIVITY 4
Time guide
3 mins

Go through the following paragraph and count the number of times the letter F appears. Write down your answer in the space provided. Do this quickly, spend no more than 3 minutes on this. Also remember to count the number of Fs once only. If you count them twice this would be the same as a 200% inspection.

> "Firstly let's stress the importance of training farm hands for first-class farms in the fatherly handling of farm live stock. If first class stock makes for first class farms, then fatherly handling should be foremost in the minds of farm owners and farm hands alike. A first class farm hand on F Farridays farm is expected to follow in the footsteps of the forefathers of the farm owners who founded the family tradition of fatherly farm stock handling and fully trained their first class hands to do the same. If ever a farm hand fell foul of the fatherly handling practices of the family after he'd been trained the Farriday's forefathers would fire him on the spot. Today the Farriday family are more tolerant for they feel that their farm hands should have a full and fair hearing if their handling of the farm stock is questioned, but they would still fire a farm hand for deliberately flouting family farming practices. They firmly believe that the fatherly handling of farm stock is the fundamental basis of first class farm management and the foremost quality of a first class hand. Farriday's farm is famous for its farm stock handling practices and has been for over fifty years".

The number of times the letter F appears is _____.

The actual number of times the letter F appears is 85. You may have got this right first time, but if you didn't then we've proved our point that even 100% inspection can't be relied upon. A colleague here tried it and got it wrong, and we did a 400% inspection of the paragraph to make sure we got it right.

We should also think about what we mean by the word quality. What the customer thinks about here is an important guide.

ACTIVITY 5
Time guide
3 mins

Let's suppose for a moment that we are thinking about buying a new washing machine. Jot down three things that would be important in choosing which one to buy. I've entered a suggestion myself to get you started.

* Price, value for money.
* _____
* _____
* _____

There are a number of things you could have suggested. The list is endless, but examples could include these.

* Reliability. We don't want our washing machine to be frequently breaking down.
* Good after sales service.
* Good design.
* Convenient delivery arrangements.

ACTIVITY 6
Time guide
3 mins

Bearing in mind what we said in the last activity, jot down one reason why inspection alone may not be an adequate form of quality control.

_____

_____

_____

Again, there are a number of suggestions you could have made. If the defect rate is say, 3% this means that three customers in every hundred will buy a faulty product. The inspection system doesn't deal with things like after sales service. Our three customers in each hundred could still be reasonably satisfied if we replaced their machines quickly with others, or made the repairs quickly and compensated them in some way for their inconvenience. In other words quality concerns don't stop at the end of the production line. So, quality should concern everyone, because the customer defines quality so widely. We could say that quality control needs to involve at least three things

- prevention of problems
- curing problems
- monitoring problems

We could also say that these three activities shouldn't be confined to the production process, but should include sales, distribution, design, in fact most areas of work in an organisation. Quality of services is as important to the customer as quality of products. Now, in the last section, we said that in many cases the person who is best placed to identify a problem is the person who faces it from day to day, at the machine face, behind the shop counter, in the warehouse, in the office, or wherever else problems arise. The scope for quality circles is as wide as our definition of the term quality.

SELF CHECK 2
Time guide
5 mins

Decide whether each of the following statements is true or false.

a) One of the problems with the inspection method of quality control is that it does not prevent problems. TRUE/FALSE

b) The people best placed to deal with a quality problem are the experts in the quality control department. TRUE/FALSE

c) Effective quality control should involve prevention and cure as well as monitoring problems. TRUE/FALSE

d) Wherever we work and in whichever industry, the customer is the final judge of our product or service. Quality needs to be thought of in wider terms than has often been the case in companies relying largely on inspection. TRUE/FALSE

e) As a supervisor, you are concerned with quality, whether your workteam makes something or provides a service. TRUE/FALSE

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. a) would be true. Inspection can monitor defect rates and notify the quality control department if they rise, but inspection alone cannot prevent problems, so statement a) is true. My choice for statement b) would be false. The specialists in the quality control department may have the training to solve large complex problems, but they are not the experts on what goes on at grass roots level. My choice for statement c) would be true. Prevention and cure are equally as important as keeping a watchful eye on the level of defects to ensure there are not too many. My choice for statement d) would be true. After discussing activity 4 we argued that quality should concern everyone. Quality can mean a reliable product or it can refer to the quality of services provided. My choice for statement e) is true. If we accept that statement d) is true, quality is not something which is only concerned with keeping the number of defective components in a production process at a low level.

So, quality circles developed in Britain in response to

- the need to define the term 'quality' more widely
- the need to sell products in Britain and abroad which were seen as being as good as competitive foreign goods
- growing recognition of the fact that price is not the only influence on customer demand
- a growing recognition of the fact that quality control experts are not always best placed to identify problems, and that people working with a problem can often identify it and solve it more quickly and cheaply.

The term QUALITY ASSURANCE which is now more widely used in place of the term QUALITY CONTROL, is a reflection of the fact that many companies now take a broader view of the term quality. Quality circles fit in quite naturally with a broad view of what we mean by quality. They can operate anywhere in the organisation and in relations between people.

We could list the major aims and objectives of quality circles like this:

- to get people involved in their work in a positive way
- to generate an awareness of the need for everyone to be concerned with quality
- to develop the skills and abilities of the people in an organisation
- to generate positive benefits in terms of, for example, cost savings, improved reliability of products, better service and also improvements in the conditions in which people work which enable them to work more efficiently and effectively - in fact the list of possible benefits which could arise out of quality circle activities is endless.

SELF CHECK 3
Time guide
5 mins

The four reasons quality circles developed in Britain are:

* _____
* _____
* _____
* _____

The four things which quality circles aim to achieve are:

* _____
* _____
* _____
* _____

The answers to this self check are here in the following words, soyou'll need to check out your answers carefully. Quality circles developed in Britain because: * organisations began to see the need to take a wider view of the term quality; * there was a growing recognition of the fact that price is only one of a long list of other influences on customer demand; * organisations began to see the need to improve the quality of their products so that they were thought of as being at least as good as foreign goods. This was seen as necessary to sell more British goods both in Britain and abroad; * there was a growing recognition of the fact that there is a pool of expert knowledge on the shop floor, and people who are closest to a problem are often best placed to identify and even solve it.

I have expanded some of the points we made earlier in this self check response checkout. The main thing is that you should have identified our four reasons. There are many other things which have influenced companies in looking at quality circles. The reasons we've identified here are largely economic reasons. Quality circles can also benefit human relations in companies and this has been the major reason for setting them up in some companies.

The four main things quality circles aim to achieve are:

* to get people involved in their work in a positive way
* to generate an awareness of the need for everyone to be concerned with quality
* to develop the skills and abilities of the people in the organisation
* to general positive benefits of a widely varying nature in the organisation.

4 How Quality Circles Work

The starting point for quality circle activities is to identify and select a problem for the circle to tackle. Problems may be brought to the attention of the circle in a number of ways.

ACTIVITY 7
Time guide
2 mins

Jot down two ways in which a problem might be brought to the attention of circle members. I've entered one myself to get you started.

* A circle member might identify a problem to be considered.
* _____
* _____

Problems may be brought to the attention of circle members in a number of ways. Here are some examples:

* A non-circle member in the same workteam may identify a problem and tell a circle member.
* A problem may be passed on to a quality circle by another group in a different section, because they have identified a problem and think the cause lies in the section covered by another circle.
* Management may identify a problem which they feel could be effectively tackled by a quality circle.

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There is a video, on quality circles, made by British Leyland, which illustrates all these methods of identifying problems and bringing them to the attention of circle members. If you can get hold of it, it's quite a useful illustration of how a quality circle goes about identifying and solving problems.

Here, we're going to look at a special technique which seems to be widely used to identify problems in quality circles, but first, try the following activity.

ACTIVITY 8
Time guide
5 mins

If you can persuade some other people in your workteam to help you with this activity, then do so but don't worry if you can't.

Spend a few minutes thinking about the possible problems experienced by members of your work team which could affect the quality of their work. Write down as many suggestions as you can in the time allowed. It doesn't matter how unlikely those suggestions may seem. Write them all down. Express as many ideas as possible.

If you have completed this activity, particularly if you managed to get a group of people from your workteam to help you, then you have just used the technique of BRAINSTORMING.

Brainstorming is a technique used to generate creative ideas in any group situation. It can be used in meetings as well as in quality circle groups.

Here are the basic procedures.

* Group members express as many ideas as possible.
* Every idea is noted, no matter how far-fetched or unlikely.
* No attempt is made to criticise ideas.
* When everyone's ideas are exhausted and suggestions dry up the ideas can be examined.

It's best to follow simple rules in brainstorming. One way in which it can be done is for each group member to express an idea one after another in the same order. If a person can't contribute when it's his turn, he can say 'pass'. Brainstorming can be used to identify problems within a circle's working environment.

SELF CHECK 4
Time guide
5 mins

a Write down in the space provided below up to three ways in which a problem might be identified and brought to the attention of a quality circle.

* _____

* _____

* _____

b What are the four basic steps in brainstorming?

* _____

* _____

* _____

* _____

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. a) At the beginning of this section, we noted a number of ways in which problems can be identified and brought to the attention of a quality circle. Here is the list again: a circle member may identify a problem himself; a non-circle member may identify a problem and tell a circle member in the section; another quality circle in a different section may pass the problem on; management may identify a problem which could be solved more effectively by a quality circle. You might also have written down brainstorming as a means of identifying problems in quality circle meetings. b) The first step is to get group members to express as many ideas as possible. Secondly every idea is noted no matter how unlikely it seems. Thirdly, no effort is made to comment on or criticise ideas expressed. Lastly ideas can be evaluated but only after everyone's ideas are exhausted and the contribution from group members dries up.

Once problems are identified, the circle members select one for further investigation, often giving the responsibility for the investigation to the circle member who is most involved. That circle member may enlist the help of various other people to collect and analyse information using a number of techniques which we'll look at later.

Having done the investigation, the circle member reports back. If a solution has been found - it's presented to management for approval.

If a solution hasn't been found - the problem is investigated further or passed to another circle or outside help is asked for.

SELF CHECK 5
Time guide
3 mins

Complete the following statements with a suitable word or group of words to give you a checklist of the way quality circles operate.

1 _____ problems.

2 _____ a particular problem to tackle.

3 Select _____ to take responsibility for fact finding and analysis

4 _____ to the circle.

5 If there is a solution _____.

6 If there is no solution _____ or _____ or _____.

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. Your checklist should look something like this although you may not have used quite the same words as me. 1 Identify problems; 2 Select a particular problem; 3 Select a circle member who is involved with the problem to take responsibility for fact finding and analysis; 4 Report back; 5 If there's a solution, present it to management; 6 If not, investigate further or pass it to another circle or ask for outside help.

Let's try out how a quality circle may work in this example.

ACTIVITY 9
Time guide
4 mins

Let's suppose that you are the supervisor of a team working in the customer service section of an electrical firm and leader of a quality circle. A large number of electrical food mixers have been returned for repairs recently, and of those repaired several have been returned more than once. There are six people in your circle. One of the members, Jim, has been involved in repairing the mixers with three other people who are not in the quality circle.

As circle leader, who would you ask to take responsibility for investigating this problem?

* _____

How would you suggest he sets about the investigation?

_____

_____

Jim is the circle member closest to the problem, so you probably suggested that the best approach might be for Jim to investigate the problem and talk to the three other people who repair the mixers. Even though they're not in the quality circle he might set up a kind of sub-circle to deal with this one problem or he might just have a chat with them informally to find out what's been going wrong and try to think of a solution. Then he would have to report back on their findings at one of the quality circle's meetings.

Now let's look at the jobs of the various people who become part of the quality circle set up.

5 Roles in Quality Circles

5.1 Circle Leader

Let's begin with the circle leader. As a normal line manager of the area from which a product or service comes, a supervisor is an ideal person to take the role of circle leader. The job of a circle leader is to run a group which can effectively solve problems in the work area with a minimum amount of outside help, and to make sure that the group fits in to the working environment as it is. In other words it shouldn't be necessary to make any changes to normal routine for the quality circle to operate. It's not an easy job and requires a number of skills. We'll see how you feel about some of them in our next activity.

ACTIVITY 10
Time guide
3 mins

Here is a list of some of the things a circle leader might need to know about or do if the circle he leads is to operate successfully. Put a tick beside those areas which would make you feel unsure of yourself in a circle leader role at the moment. In other words identify for yourself those areas in which you feel you would need help or training.

a) An ability to get a list of possible problems to examine from your work team and circle members. Many circles use the brainstorming technique which we looked at earlier in the unit.

b) Some idea of how to go about selecting a suitable problem for the circle to deal with. A quality circle will keep going if its projects are successful.

c) Some idea of how to go about collecting the facts and data the circle needs.

d) An ability to organise other members of the circle to collect the facts and data it needs.

e) An ability to sort out any problems which arise in the group, such as personality clashes.

f) A knowledge of some basic problem solving techniques and the ability to show these to your circle members when they are needed.

g) A knowledge of some basic procedures for analysing problems and the ability to show these to circle members when they are needed.

h) An ability to present circle solutions effectively to higher management.

Being a circle leader isn't always an easy job. The training of circle leaders is therefore an important element in setting up quality circles effectively. Circle leader training can sometimes influence whether or not a circle will succeed or fail. If you ticked quite a lot of areas, we've hopefully made these points.

5.2 Facilitator

Having done the last activity, you can probably imagine that you'd be glad of help and support in the early stages of getting a quality circle going.

This is the role of the FACILITATOR who is often a member of middle management.

Here is a list of the functions of a facilitator.

- to encourage the circle to become as independent as possible
- to make sure that each circle is aware of the activities of other quality circles
- to help the supervisor develop his skills and confidence in the role of circle leader
- to encourage support for the quality circle programme amongst circle members and others particularly managers in the organisation
- to help in clearing up any problems which might arise during quality circle activities. For example in the early stages, circles often need help in setting up and giving management presentations. If a solution which is accepted runs into problems during implementation his help may be needed to iron them out
- in some organisations the facilitator keeps copies of the records of circle activities. This helps to provide a basis for coordinating circle activities when the number of quality circles grows in number.

In many businesses the role of facilitator is all that is needed to make sure the quality circles programme goes into action and that the circles get the help, support and information they need.

But you can see that, particularly in larger businesses where there may be several divisions spread over several sites, you need somebody to pull the whole programme together and to make the best of facilities like training.

5.3 Co-ordinator

ACTIVITY 11
Time guide
2 mins

Do you think this role should be taken by somebody from

first line management? |_____|
middle management? |_____|
senior management? |_____|

Tick whichever you think is most correct.

This role is usually filled by somebody from senior management because he has sufficient authority and a broad enough view of what's going on in the business to keep the quality circles programme going. This job is called QUALITY CIRCLES CO-ORDINATOR and we can list the functions of the job like this:

- to act in a public relations role for the whole programme as it develops. The coordinator should know about all quality circles and their activities and be able to answer questions and queries about them

- to act as programme administrator. Someone needs to be responsible for organising training sessions and materials. When key persons are on holiday or absent, the coordinator may need to provide cover

- to make sure that communications between facilitators are good

- to provide back up to facilitators. If outside help is required as a last resort, a facilitator may need help in obtaining it

- to make sure that the essential main features of quality circles are retained

- to make sure that the main aims and objectives of the quality circle programme are achieved

The jobs of facilitator and co-ordinator aren't absolutely fixed. Sometimes one person can do both jobs, sometimes there will be more than one co-ordinator in a company. The point is that management must actively support and encourage individual circles and co-ordinate the work of the various quality circles operating.

5.4 Steering Committee

Lastly, we should mention Steering Committees. The functions of the Steering Committee are:

- to make decisions about policy relating to the quality circle programme.

This could include things like further expansion of quality circle activities, the areas into which quality circles should be introduced and the pace at which the quality circle programme should be allowed to expand.

- to consider budgets for training

In other words, the amount of money which should be set aside for quality circle training

- to plan the quality circle programme in the light of the need to coordinate all the activities of the organisation

In other words, the Steering Committee guides the operation andformation of quality circles. It must keep the organisation as a whole in mind when discussing policy. The coordinator has a key role in the steering committee, often acting as chairman and it follows that, since all the activities of the organisation are involved, senior representatives from all the major functions (personnel and finance, for example) should be on the steering committee. If a firm takes its quality circles programme seriously then it should make sure that it has the active support and involvement of senior management. The work of the steering committee is one way of demonstrating that support. In some firms the coordinator may make policy decisions on his own but, as the programme grows, the support and guidance of a steering committee becomes more important.

SELF CHECK 6
Time guide
3 mins

a) You are the leader of a quality circle which has decided that it needs some outside advice from a quality control expert. As circle leader you would try to get this help through your contact with the _____.

b) If there are a large number of quality circles where you work the quality circle programme may be guided by the _____.

c) Your quality circle requires the use of training materials. The facilitator could organise this for you through the _____.

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. a) If you need outside advice you are going to need active help and perhaps information from somebody outside the circle. You should get this from the facilitator; b) the quality circle programme may be guided by the steering committee, since policy decisions would be involved, in a smaller set up the coordinator may direct the programme himself, without a steering committee; c) the facilitator would arrange for you to use training materials through the coordinator.

6 Summary

Quality circles are small groups of people working in the same area who meet regularly to identify, investigate, propose and implement solutions to problems in their work area.

To be effective groups should be small and members willing to belong to the circle.

The aims of quality circles are:

* to get people involved in their work in a positive way
* to involve everybody in an awareness of quality
* to develop skills and abilities of people participating
* to generate benefits in all possible ways including cost savings, reliability and better service and better working conditions.

Quality circles: identify problems
select one or more
give responsibility to the circle member most involved to investigate
report back
present a solution to management
or - if not solution is apparent investigate further
or involve another circle
or seek outside help

Quality circles are organised by - a circle leader (often a supervisor)

helped and supported by - a facilitator

directed and monitored by - a coordinator

Policy decisions affecting quality circles are

made by - a steering committee

PART B INTRODUCING QUALITY CIRCLES

1 Introduction

It is no easy matter introducing quality circles. As with most other activities, it's a lot easier to find out about successes than failures. There are companies which have tried and failed to introduce quality circles. There are others which have introduced them only to find they fail later. In this section we'll look at the main requirements for introducing quality circles successfully. We'll also try to highlight some of the benefits successful introduction can bring. However, there can also be problems. Sometimes these can be so serious as to cause a quality circle programme to collapse. In order to provide a balanced picture, we'll try to identify some of these problems and demonstrate how not to try and introduce quality circles.

2 What can go wrong?

Let's consider two companies - Company A has good relations between management and shop floor people. People have always been encouraged to take an interest in the company and develop their own skills and abilities. Training, suggestion boxes and friendly and helpful managers have always been a feature of the company. People generally consider that it is a good company to work for and there have been very few disputes leading to industrial action like strikes, go slow or overtime bans.

Company B is very different. There have been many cases of industrial action. There is very little trust of management among the operators on the shop floor. Training programmes have been minimal and little interest has ever been shown in operators developing skills other than those needed to do their own job. There have never been any suggestion schemes, and some of the managers have said that if a scheme were introduced no one would use it anyway.

ACTIVITY 12
Time guide
3 mins

Now we know what quality circles are, and what they require of the people who become involved in them, consider the two companies we've described above. Jot down whether or not you think quality circles would suit these companies. Consider each company separately and try to give one reason for your decision.

Company A _____

_____

Company B _____

_____

In theory there is no reason why both companies could not benefit from quality circles, but they would be much harder to introduce in Company B than in Company A. And Company B would be more likely to experience failure.

ACTIVITY 13
Time guide
3 mins

Think for a minute or two about Company B particularly.

Try to think of two problems which Company B might have if it tried to introduce quality circles. I've entered a suggestion myself to get you started.

* No one is used to the idea of people on the shop floor doing anything other than man their machines.
* _____
* _____

The list is endless. Typical responses might have included some of the following:

* the operators might be suspcicious of quality circles because there is very little trust in management
* managers may be unwilling to support quality circles because they lack confidence in the shop floor
* work teams might see quality circles as an attempt by management to get them to do a management job without paying management salaries.

While in some cases quality circles can help to improve working relations, if a company has poor working relations, poor communication, and an atmosphere of distrust between shop floor people and managers, there are more likely to be problems introducing quality circles.

In other words, the attitudes of people in the company can be a major problem. The working environment of the firm may not fit the quality circle approach.

ACTIVITY 14
Time guide
5 mins

Here's an example of what I mean.

A certain company decided it would like to introduce quality circles in one of its manufacturing plants because there had been a lot of complaints about the reliability of its product.

Seven supervisors were selected and sent on a circle leader training course. They were told to select five other people from their work teams to form a quality circle. A middle manager whose work load was thought to be lighter than average was appointed as a facilitator and a senior manager nearing retirement was pressurised into acting as coordinator, because it was felt that this would be a useful function for the senior manager to perform while he was grooming the person who had been chosen to replace him.

Write down your thoughts on whether or not you feel the company will succeed or fail with its quality circles. Try to think of at least one reason for your decision.

You may have thought of several good reasons why the company should succeed. After all, they're providing training and management support.

However, I think it's more likely that the approach they are taking to introducing quality circles will lead to failure.

* The supervisors were selected - we don't know that they volunteered.
* The circle members are to be selected too - it would be better if they volunteered.
* The facilitator needs energy, enthusiasm, knowledge and contacts - not a slot in his timetable.
* The coordinator certainly doesn't sound enthusiastic about the job if he had to be pressurised into it during the run-up to retirement.
* It doesn't sound as though senior management are very committed to the idea of quality circles if the job of coordinator is seen as a useful fill-in before retirement.

EXTENSION 1
Page 68

In "Quality Circles in Action" Mike Robson describes a real company which experienced failure because of an approach very similar to that which we've just looked at.

So we can sum up the reasons that quality circles may fail as follows:

the working environment may not suit the quality circle approach if people are pressed or pressurised into joining they may not feel committed to the idea

top management may not be committed to the ideas of quality circles.

So, if these are some of the things which can go wrong, how can we ensure that quality circles succeed?

Let's look at some of the things which are needed for the successful introduction of quality circles.

3 The Requirements for Success

From the work we've done so far on what can go wrong, we should be able to deduce what's needed for success.

ACTIVITY 15
Time guide
4 mins

Jot down three conditions which you think are necessary for quality circles to succeed.

* eg. the right kind of working atmosphere
* _____
* _____
* _____

From what we've said so far, you may have identified these conditions:

* commitment throughout the programme from people at all levels including top management
* voluntary participation
* visible support for the quality circle programme

I should also like to add to these:

* introduce quality circles slowly

* training facilities and resources must be available

* circles need back-up from outside the group.

Let's look at some of these in more detail.

3.1 Top Management Support

As a supervisor, you're not likely to have much success in setting up quality circles unless you have the support of top managers to to provide the driving force.

ACTIVITY 16
Time guide
3 mins

Spend a couple of minutes thinking about how people are likely to feel about contributing to quality circles if they suspect top management aren't committed to the idea. Write down two ways in which they might react.

* eg. They won't feel encouraged to give quality circles a try.

* _____

* _____

There are a number of things you could have written. Perhaps you've experienced changes in your firm which have been short lived because of lack of commitment. If you have then perhaps you might have thought about the possibility that the people where you work would think of quality circles as another fad, something which is likely to be a short-lived thing which is fashionable at the moment, but which will die a death along with a lot of other attempts to change things on the shop floor in the past. If you were thinking along these lines then your response may have included some of the following:

* if top managers aren't committed why should anyone else put themselves on the spot by supporting a quality circle programme. No one really likes to be involved in things which fail

* if top managers aren't committed quality circles may not be able to get support from outside when they need it

* quality circles may not be seen as something which will last, so why should busy people spend time getting them going and keeping them going.

Apart from problems of getting people to support quality circles and volunteers to take part, setting them up costs money. Training materials, training time, and putting solutions into operation are all going to cost money. Coordinators and facilitators need to have time to support the programme. Time spent supporting quality circles can't be spent doing other jobs. Circle leaders and members also need to spend time in meetings. So in financial terms, quality circles require an investment.

To summarise the points we've made, we can say that top management support is needed for

- people in the organisation to support them
- quality circles to last
- financial resources to be committed to the quality circle programmes.

3.2 Starting small, starting voluntarily

We've stressed already that it's important that people should support the idea of quality circles voluntarily. Often, this means starting in a small way too, with one or two circles.

ACTIVITY 17
Time guide
3 mins

Many writers, consultants and companies with successful quality circle programmes stress the importance of starting with one or two circles only.

Jot down two reasons why you think this is more likely to be successful than starting with a more ambitious programme.

* _____

_____

* _____

_____

Perhaps you suggested some of these reasons

* One or two groups means you are likely to be using the real enthusiasts. The programme can develop at <u>their</u> pace and in the direction <u>they</u> want.
* A small start means that it is easier to provide the initial training and support.

* If early solutions are implemented and become known throughout the company, the circles will be seen to be successful which will encourage others at least to take them seriously.

* A small start won't disrupt the normal running of the firm. Quality circles should fit in with the way things are normally done without any need to make major changes.

3.3 Training

Quality circles need to be able to select, examine and consider problems and solutions in an organised way. In other words they need to have a basic knowledge of how to achieve their task. The way in which they work may differ from organisation to organisation, but all quality circles need:

- a knowledge of a basic set of steps to follow
- a few approaches to examining and resolving problems
- a basic knowledge of how to go about presenting solutions to management, implementing them and noting the results.

Facilitators and circle leaders will need to be properly prepared for their tasks in particular. Without the necessary training they could lack the confidence or skills to carry them out effectively.

Having said that, in this unit we are particularly interested in the functions and training of the circle leader since that is the role a supervisor is most likely to take on.

4 Techniques for the Circle leader

We'll look at the basic techniques which you might find useful as a circle leader and discuss an outline of the work a circle would need to do in order to carry out the function effectively.

SELF CHECK 7
Time guide
5 mins

Let's begin by revising the main qualities of a circle leader which we discussed in PART A of the unit. Write down four of a circle leader's qualities either from memory or by flipping back through the unit.

* _____
* _____
* _____
* _____

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. Here's the list again. Any four items from this list would be a suitable response to this self check. Don't worry if your wording is different to mine. * an ability to get a list of problems from circle members * an idea of how to select a suitable problem * an idea of how to collect the facts and data * an ability to organise the efforts of the other circle members * an ability to deal with any problems in the group * some knowledge of basic problem solving techniques and the ability to show these to other circle members * some knowledge of basic procedures for looking at problems and the ability to show these to other circle members * an ability to present circle solutions to higher management.

In general, the aim of training should be to help the future circle leader to develop the qualities identified, but it helps to narrow the aims down a bit. Mike Robson in 'Quality Circles in Action' gives five aims:

REFERENCE 2
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- to introduce the future circle leader to the basic problem solving techniques which quality circles find useful
- to give future circle leaders practice in using these techniques and to boost their confidence in using them
- to give future circle leaders instruction in how groups of people operate together and the things which can influence relationships within a group
- to get the facilitators involved in the circles and with the future leaders
- to find volunteers to start up quality circles at the end of the training.

Let's look at some of the problem solving techniques quality circles can use.

You're likely to come across most of them if you become involved in quality circles, and in any case some of them are quite useful in their own right. Some or all of these techniques form an important part of a future circle leader's skills.

4.1 Brainstorming

One technique which seems to be used by most quality circles is brainstorming. This can provide a starting point for quality circles by producing a list of possible problem areas. We've already looked at this particular technique in part A. Let's remind ourselves of the basic procedures by doing a self check.

SELF CHECK 8
Time guide
5 mins

Try to remember the basic procedures of brainstorming and list them in the space provided below. I've entered the first two to jog your memory.

1 Group members express as many ideas as possible.

2 Every idea noted no matter how unlikely it seems.

3 _____

4 _____

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. The two missing procedures were - no attempt is made to criticise ideas and when everyone's ideas are exhausted and suggestions dry up the ideas are examined.

So, we've seen how to produce a list of problems. The next step is to select the most suitable one to examine.

4.2 Tally Sheets

One way in which we could start is to make out tally sheets for each of our problems and record how often they occurred on a check sheet. Over a period of time, say a week or two, the number of times each problem occurs can be noted. Quality circles might also note how much each problem has cost the organisation over the period. The most serious problem can then be identified and examined by the circle if it feels it can tackle it.

Here is an example of a tally sheet, showing the diameters of a number of one inch washers. Let's assume that one of our problems is that one inch washers are frequently produced with too small a diameter. To find out if this was the case a number were tested over each of three weeks. Let's assume that 1 inch washers are scrapped if the diameter is less than 0.9.

TALLY SHEET SHOWING DIAMETER OF ONE INCH WASHERS

Diameter	Tally of diameter measurements
0.5 - 0.6	111
0.6 - 0.7	1111
0.7 - 0.8	111111
0.8 - 0.9	1111111
0.9 - 1	1111111111111
1 - 1.1	111
1.1 - 1.2	1

We can define our groups as 0.5 up to but not including 0.6, up to but not including 0.7, and so on.

ACTIVITY 18
Time guide
2 mins

How often does the problem of producing washers with too small a diameter occur?

* _____

We have to count up the marks in the groups below 0.9 - 1, which tells us that 20 washers with a diameter of less than 0.9 were produced.

Using the information from our tally sheets, we can make a check list. It's often useful to make some provision for recording cost. Here's an example of what I mean.

Let's assume our washer problem is problem 1 and we have 6 other problems. If we test all of our problems over say three weeks our check sheet might look like the one below.

CHECK SHEET OF PROBLEMS

	Week 1		Week 2		Week 3		Total	Total
	No of occurrences	Cost £	No of occurrences	Cost £	No of occurrences	Cost £	No of occurrences	Cost £s
Problem								
1	20	63	45	141.75	30	94.5	95	299.25
2	3	300	5	500	2	200	10	1000.00
3	2	1000	4	2000	8	4000	14	7000.00
4	10	2000	15	3000	5	1000	30	6000.00
5	10	500	10	500	16	800	36	1800.00
6	5	500	15	1500	0	0	20	2000.00
7	2	120	1	60	2	120	5	300.00

The number of items tested for each problem should ideally be the same in each of the weeks.

ACTIVITY 19
Time guide
3 mins

Which two problems would you consider to be most serious? Jot down the numbers of the problems and the reason for your decision.

_____

_____

_____

You could have based your selection either on cost to the company or the frequency of occurrence.

It's more usual to base a choice on cost. One reason for this is shown in our check sheet. The most frequently occurring problems are not always the most expensive. So, on our checklist, although problem 1 occurs most frequently, the cost of it is much lower than, say, problem 3 or 4.

ACTIVITY 20
Time guide
3 mins

Just think for a few minutes about how the cost of waste arises where you work. (It doesn't matter whether your job involves making goods, selling goods or offering a service to the public or to other departments of your firm - everybody has some experience of waste!)

Put a tick beside the statement which you feel to be more true.

1 The cost of waste is likely to be spread fairly evenly throughout the firm.

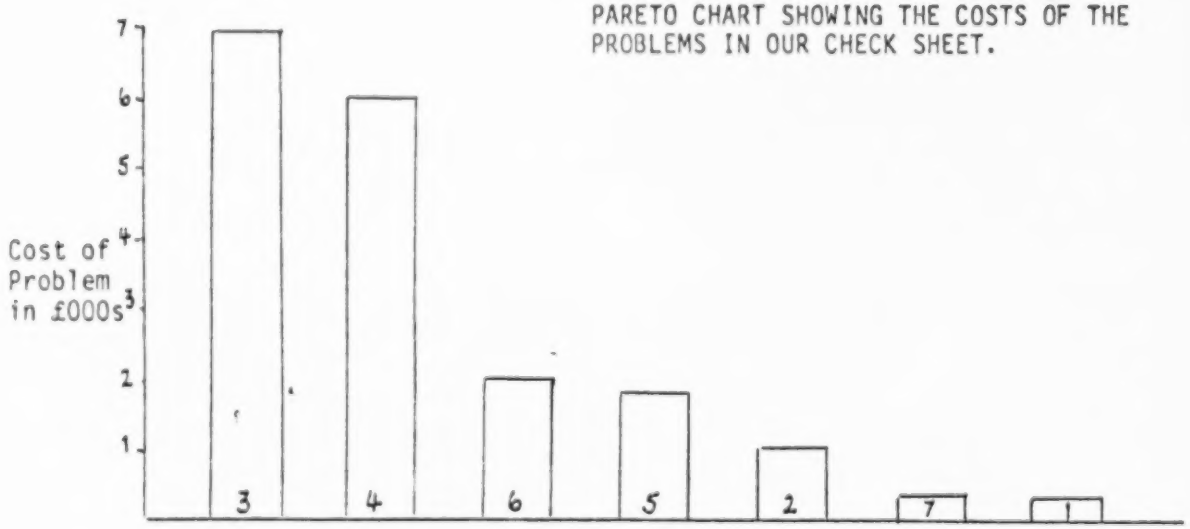
2 Most of the cost of waste is likely to arise from a fairly small number of sources.

If you ticked the second statement you've just identified the Pareto Principle, which is another good reason for basing a choice on cost.

4.3 The Pareto Principle

The Pareto Principle tells us that it's likely that about 80% of the cost of waste will arise from 20% of the work done. So, if we take a manufacturing situation, 80% of the cost of scrap will arise from making about 20% of the parts. If a problem doesn't occur very often but is expensive when it does occur, this can be identified by drawing a chart like the one below showing how much a problem costs the organisation over a particular period of time. Because it shows up the Pareto Principle it's often called a Pareto Chart.

PARETO CHART SHOWING THE COSTS OF THE PROBLEMS IN OUR CHECK SHEET.



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We've put the problem number at the base of each bar.

Each bar represents a problem and is drawn to a height which matches its cost, which is shown up the side. The taller the bar, the more the problem it shows costs the organisation. We draw the bars which represent the most expensive problem on the left and work to the right until we have the least expensive problem as the last one. We'll see why later.

So, if we were going to select say, two problems to look at based on how much they cost our organisation, we'd select problems 3 and 4.

Pareto charts can also be drawn to show the frequency with which a problem occurs.

SELF CHECK 9
Time guide
5 mins

Decide whether each of the following statements is true or false.

a A Tally sheet can be used to monitor the frequency with which a problem occurs. TRUE/FALSE

b The Pareto Principle tells us that the cost of the problems will be spread fairly evenly throughout the plant. TRUE/FALSE

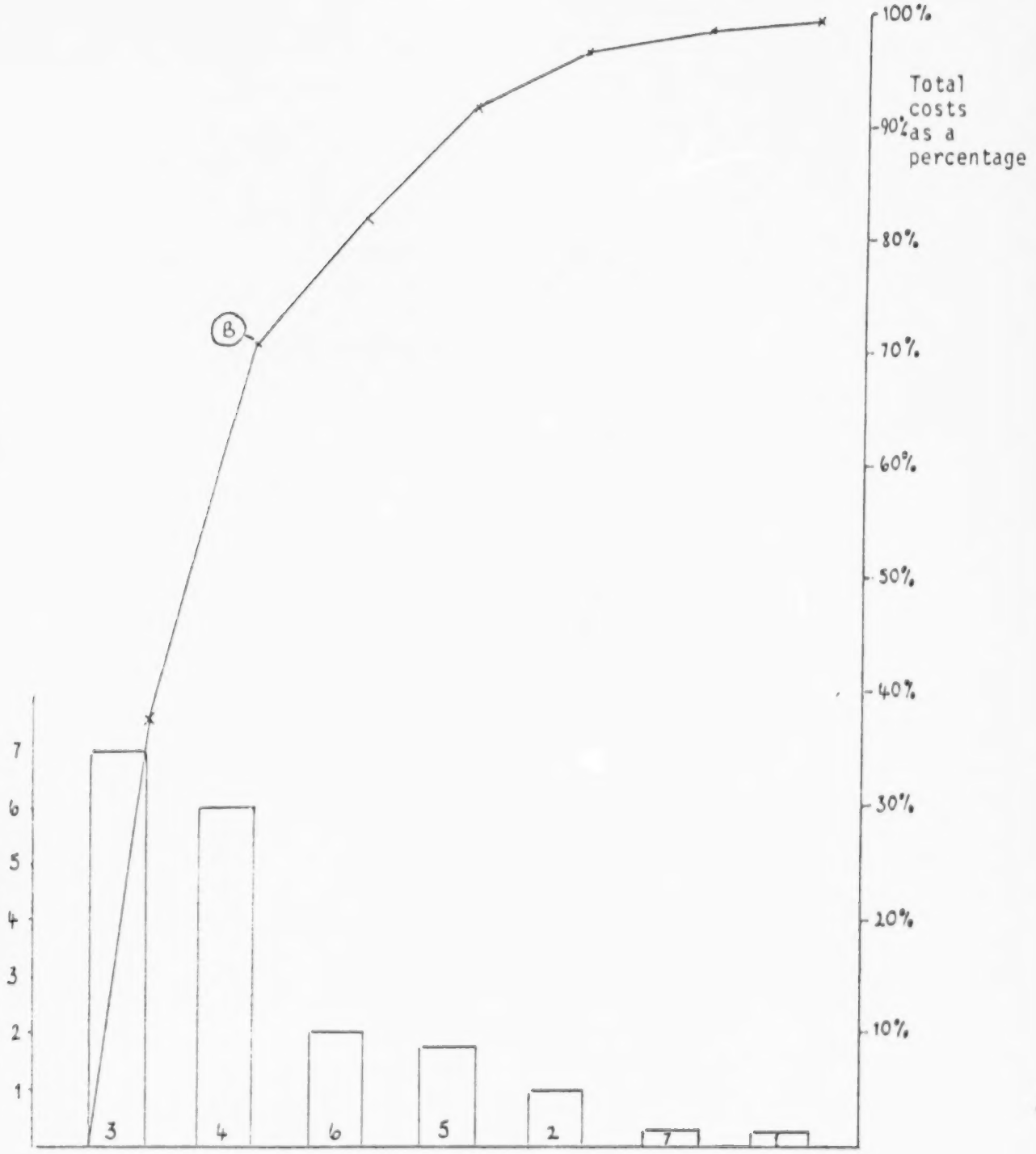
c Pareto charts can show us the frequencies with which problems occur. TRUE/FALSE

d Pareto charts can show us the costs of problems. TRUE/FALSE

e A Check sheet can be used to compare our various problems. TRUE/FALSE

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. My choice for statement a) was true. Tally sheets are very useful for this purpose. My choice for statement b) is false. The Pareto Principle tells us that most of the cost of the problems will be a result of producing a small number of items. My choice for statement c) is true. Pareto charts can show costs or frequencies. My choice for statement d) is true: this is one of its main uses. e) You can use a check sheet to compare the relative costs or frequency with which different problems occur.

A Pareto chart is often combined with a graph so that it shows up the percentage contributions to costs more clearly. Using our example in the Pareto chart and check sheet we could produce a diagram like the one below. We normally call this a PARETO CHART.



The graph shows more clearly that roughly 70% of the cost is caused by only two of the problems. Part B shows the percentage contribution to costs of problems 3 and 4 together.

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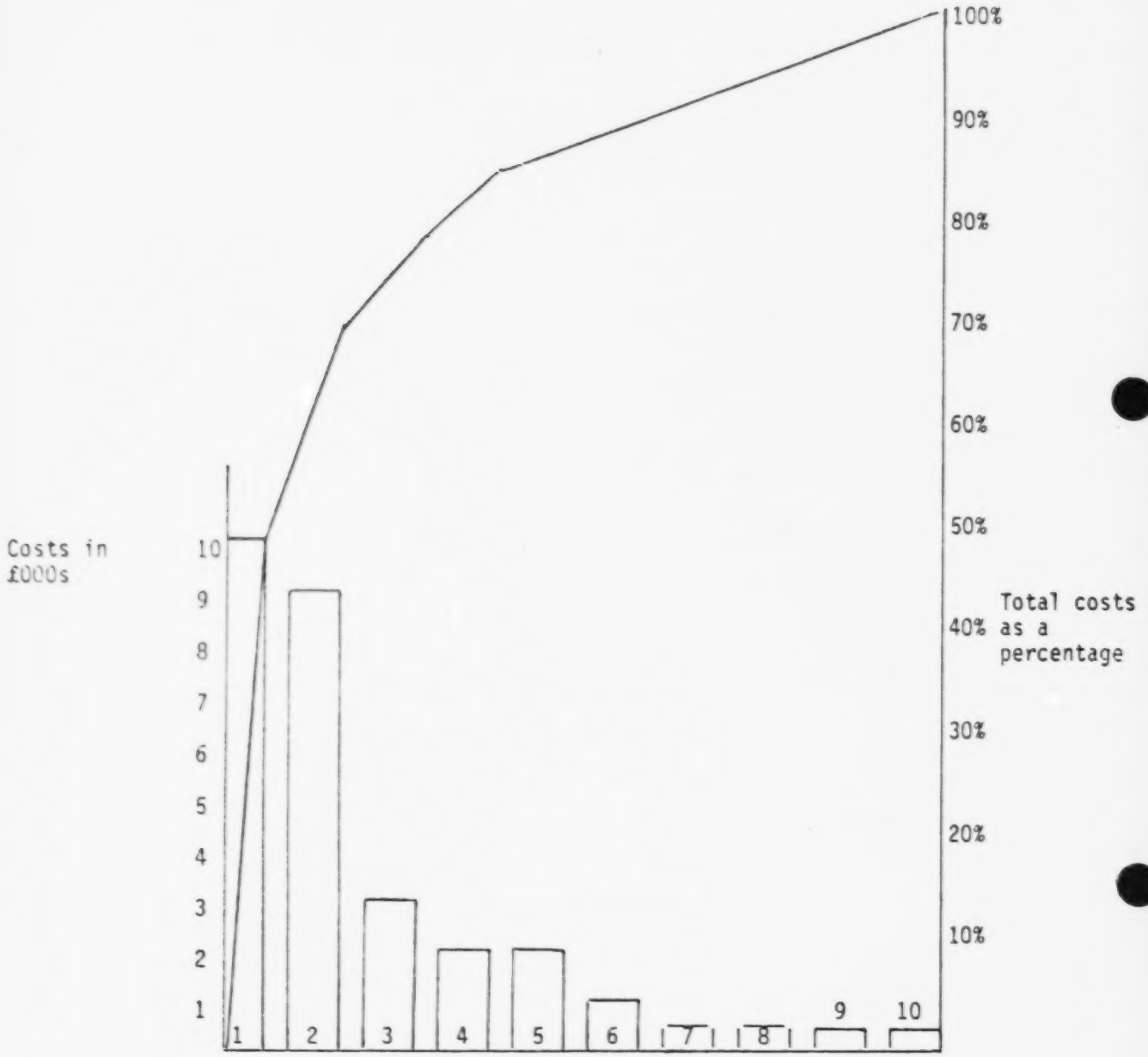
Let's look at another example. This chart shows 10 problems.



ACTIVITY 21
Time guide
2 mins

What percentage of the total costs are made up by problems 1 and 2?

The percentage can be read off the graph on the pareto chart. The answer is about 70%.

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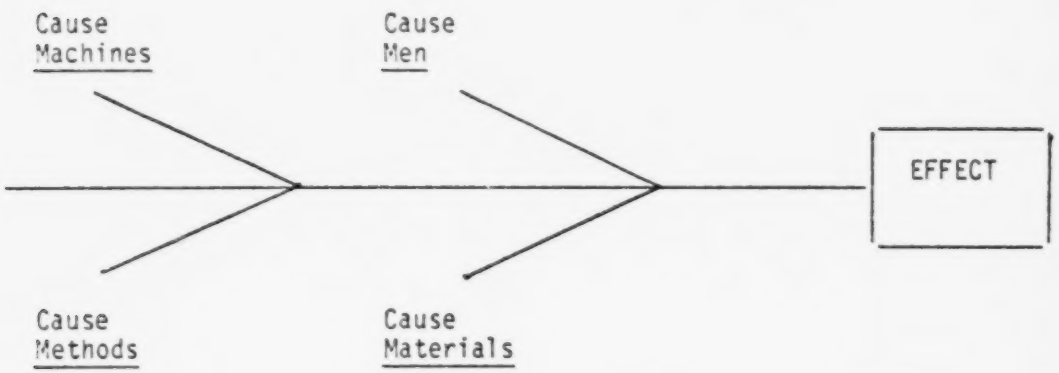
4.4 Cause and Effect Diagrams

Once we've selected the problem to examine, we need to find what causes it. Cause and effect diagrams are a useful aid. Our problem is the effect. We're going to look at a straightforward way of trying to find the cause. There are four classes into which we could put possible causes. Sometimes we refer to them as the four Ms. They are

Men
Machines
Methods
Materials

So, if our problem is an effect, we could draw a diagram like the one below.



This can provide a quality circle with a problem solving framework. Everyone in the circle should be encouraged to give their ideas as to possible causes.

ACTIVITY 22
Time guide
4 mins

Let's consider a simple example of how this might work. Suppose that one of the serious problems in your household is that nearly every morning the toast gets burned filling the kitchen with smoke and making everyone late for work. This is our problem or effect. Now try to think of a possible cause under each of these four headings and write them down in the space provided below.

Machines _____

Methods _____

Materials _____

Men _____

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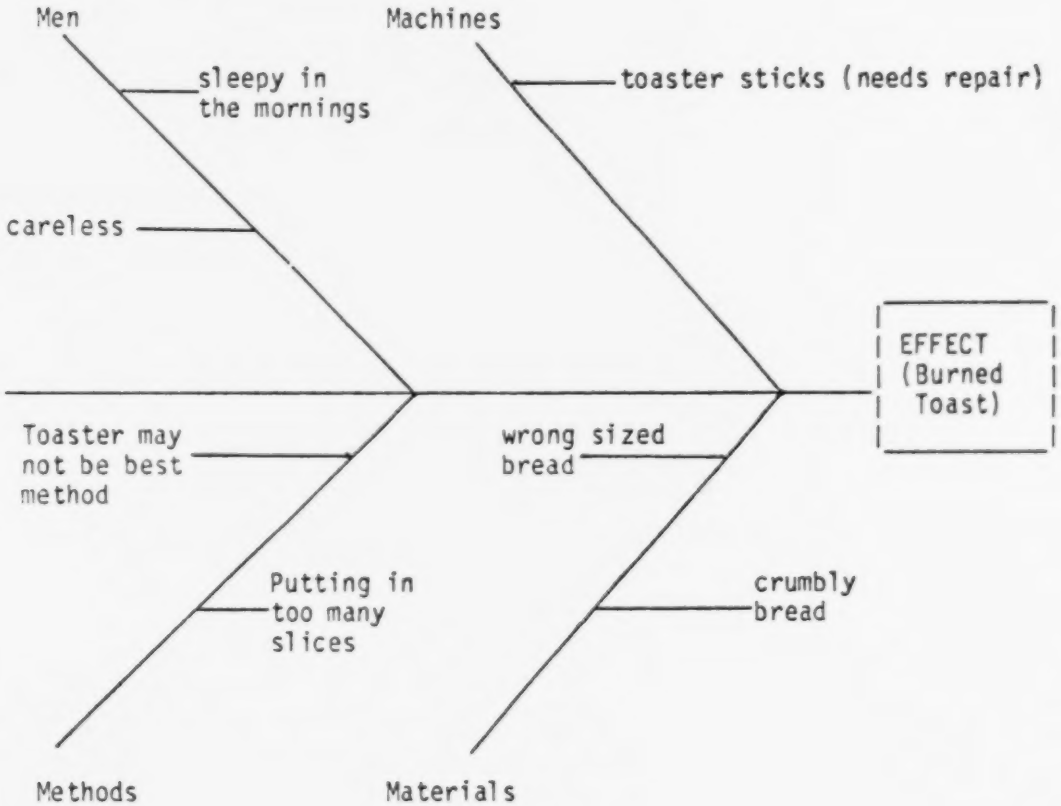
You could have written down a number of things. Perhaps you have an electric toaster which doesn't pop up when the toast is done. This would be a machine problem. Perhaps if you use an electric toaster it might be better to get rid of it and do your toast under the grill of your cooker? Is the electric toasting method effective? If the bread is too crumbly this would be a materials problem. Lastly the human element. Perhaps everyone in your family is so sleepy in the mornings that no one watches the toaster. If this is the case the toast would also burn under the grill.

Now we have some possible causes we can enter them on our cause and effect diagram in the way we have below.



ACTIVITY 23
Time guide
3 mins

If you thought of causes under any of our headings in the last activity which we've not entered, enter them now, together with any more you can think of now.

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Now that the Cause and Effect diagram is prepared, you could ask the members of your family to vote for the cause they feel to be most important. In a quality circle, the circle members would evaluate the causes in some way. They could vote on the most important cause or each member could decide on what seemed to them the most important two or three. Cause and Effect diagrams can be used to -

identify causes and effects

help circle members decide what to do to investigate causes

find major solutions

compare different procedures or methods (in our example we could compare the toaster method with the grill method)

help circle members introduce improvements in the process (again in our example, it might help to give someone responsibility for watching the toast).

ACTIVITY 24
Time guide
10 mins

Think of some problem you've experienced recently at your place of work. Use the space provided below to prepare a cause and effect diagram.

Obviously there is no way that I can comment on your response to this activity but I hope you are already beginning to find the Cause and Effect diagram a useful tool.

SELF CHECK 10
Time guide
5 mins

You can use Cause and Effect diagrams to do six different things?

What are they? (I've entered the first one to jog your memory.)

* to identify causes
* _____
* _____
* _____
* _____
* _____

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. It doesn't matter what order you have these in or whether you have used exactly the same words as me but broadly, you can use a Cause and Effect diagram to identify causes; understand causes and effects; help circle members decide what to do to investigate causes; find major solutions; compare different methods; help circle members introduce improvements into the process.

4.5 Control Charts

Graphs and Control Charts can also be useful when we're investigating a production process. In any automatic or partly automatic production process we can expect the product we make to vary slightly in size. Not all one inch washers will be exactly one inch across, but there will be a certain amount of leeway either side which is still acceptable. The technical term for this amount of leeway is "tolerance". So, to put it another way, there will be tolerance limits within which the width of a one inch washer can vary without it having to be scrapped. We could show this on a diagram. Let's assume we're making one inch washers which must be scrapped if they are more than 0.02 of an inch larger or smaller.

inches

1.02 _____ Upper Tolerance Limit

1.01 _____

1 _____ Target Area

0.99 _____

0.98 _____ Lower Tolerance Limit

Statistics tells us that 86 percent of our washers will fall in the middle half, which is our target area. In other words the area which we aim for.

SELF CHECK 11
Time guide
5 mins

Let's assume that you work for a firm which makes bolts to go with our washers. They're used to make a piece of machinery. They must be two inches long, although they'll not be scrapped unless they are more than 0.08 inches longer or shorter.

1 Use the space below to draw a chart showing our target area and tolerance limits. I've entered the measurements of the key lines to guide you.

inches

2.08

2.04

2.0

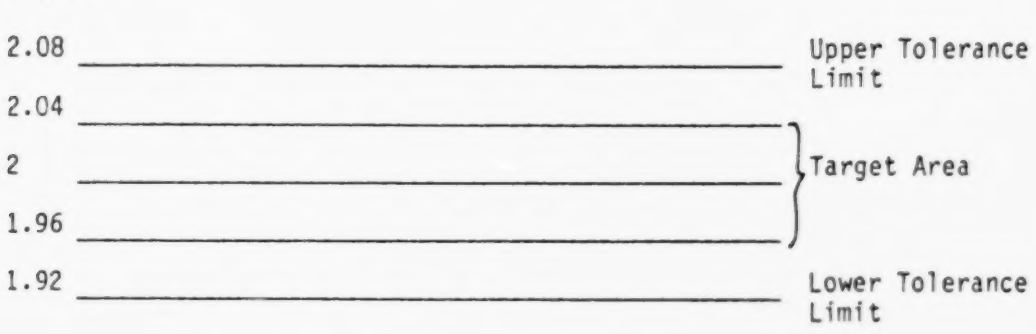
1.96

1.92

2 What percentage of washers would you expect to fall within our target area. Write your answer in the space provided below.

* _____

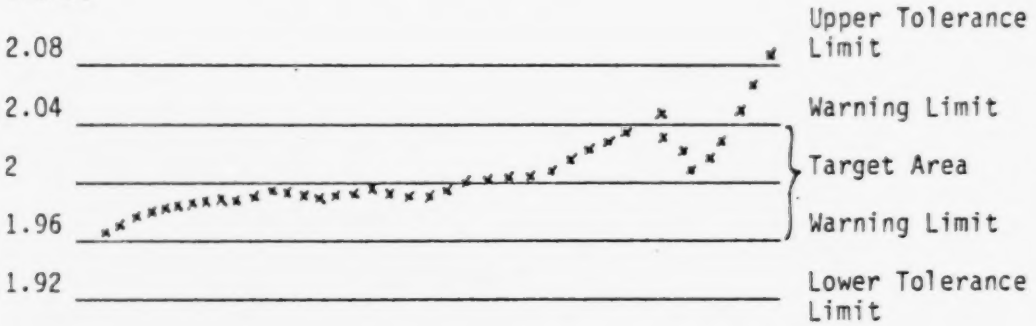
The answers to this self check are here in the following words, so you'll need to check out your answers carefully. Question one asked you to draw a chart. Your chart should look like the one below.



Question two asked how many washers you'd expect to fall within the target area. The answer is 86%.

The charts we've just drawn are called PROCESS CONTROL CHARTS. They're useful because we can mark where a sample or selection of our washers or bolts fall on it.

Here's an example of a chart with a selection or sample of bolts marked on it.

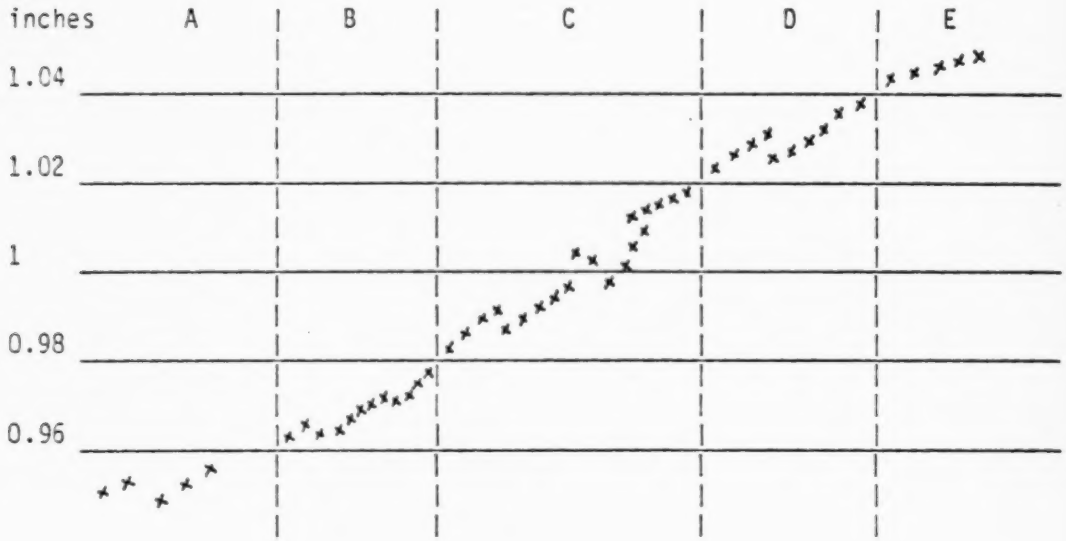


If the length of the bolts begins to fall outside our target too often, then some action to prevent this is suggested. In our example, we'd be likely to take action when the four bolts marked with a cross fell outside the target area. For this reason the boundaries of the target area are often called WARNING LIMITS. If the length of the bolts begin to fall outside the tolerance limits then action is required urgently, because these bolts must be scrapped. The mark falling outside our upper tolerance limits tells us that urgent action is needed.

SELF CHECK 12 Here's a process control chart. We've divided it into sections.
Time guide
5 mins

The Width of one inch Washers

PROCESS CONTROL CHART



Complete the following sentences by filling in the blanks.

1 Urgent action is needed in sections _____ and _____.

2 Although our washers fall inside our tolerance boundaries, action is still suggested in sections _____ and _____.

3 In section _____ the width of our washers falls within the target area.

4 The value of our upper tolerance limit is _____ inches.

5 The value of our lower tolerance limit is _____ inches.

6 The values of our warning limits are _____ inches and _____ inches.

If you read the following passage carefully, you'll find the answers to our self check. Urgent action is needed in sections A and E because our washers fall outside our tolerance limits and must be scrapped. In sections B and D, the washers are still inside our tolerance limits, but as a lot of them are outside our target area, action is suggested. In section C, the washers fall within our target area. The value of our upper tolerance limit is 1.04 inches and the value of our lower tolerance limit is 0.96 inches. Our warning limits form the boundary of our target area, their values are 0.98 and 1.02.

4.6 Presentation to Management

Lastly, we'll take a quick look at presenting circle solutions to management. The key to a successful presentation is to plan it carefully.

ACTIVITY 25
Time guide
3 mins

Suppose you have to make a presentation to management. Jot down two things you feel you'd need to do in advance of the presentation. I've entered one suggestion myself to get you started.

* Prepare a project report

* _____

_____

* _____

_____

_____

There are a number of things you'd need to do - your responses may have included some of the following:

* preparing materials such as charts, and other visual aids

* the group members and the circle leader would need to prepare their spoken contributions

* everyone who should attend the presentation would need to be invited in good time, say, a week or two beforehand

* outline plan for the presentation would need to be prepared

REFERENCE 4
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Mike Robson suggests the following steps as a guide to successful presentation:

- Have a schedule and try to start and end on time
- Use a large enough room with plenty of seating
- Have a chairperson or coordinator present to steer the meeting
- Use an agenda which outlines the subjects and speakers
- Use visual aids such as slides, charts and graphs
- Don't discredit other departments
- Use positive points as accomplishments
- Invite all interested parties
- Don't ask for additional funding or people
- Don't ask for on-the-spot decisions

5 Launching Quality Circles

In Part A we looked at the main features of quality circles and how they developed and the role of people in them. In this part we've looked at the things which are needed for quality circles to stand a chance of working and seen some of the techniques a circle leader would find useful. We'll finish this part of the unit by taking a look at how an organisation might go about putting quality circles into action. In other words, how quality circles might be introduced once the decision is made to go ahead with them.

The first step that needs to be made is to find out about quality circles and to find out what they would involve in the organisation. One approach to this problem is to select a small team of two or three people from suitable areas of the business to research the problems.

ACTIVITY 26
Time guide
3 mins

Think about your own work place for a minute or two. Write down two areas from which people to make up this team might come.

* _____

_____

* _____

_____

There are a number of suggestions you could have made with good reasons to back up your choice. My suggestions would be to involve someone from the industrial relations area of the personnel department, someone from quality control, and in a manufacturing company, someone concerned with production. Don't worry if these weren't your choices. In practice this is a fairly common combination. Let's look at some of the reasons.

ACTIVITY 27
Time guide
3 mins

Jot down one reason why you think somebody from one of the areas I've suggested should be involved in researching quality circles in a particular workplace.

*

Again there are a number of suggestions you could have made. Let's look at each of these people one by one. - Someone involved with industrial relations.

Quality circles are going to involve change and can be tricky in terms of managing people involved. Someone who is involved in industrial relations will also be well placed to judge how best to introduce the idea to the unions when the time comes. The timing itself could be important. It's best not to start talking about quality circles just before the annual pay round.

ACTIVITY 28
Time guide
3 mins

Jot down one reason why it would be useful to involve somebody from quality control in setting up quality circles.

*

Again, there are a number of things you could have suggested. Here are the main reasons I would include on my list:

* quality circles will be dealing in the main with problems relating to the quality of work produced and the quality of working in that particular firm

* problems like high scrap rates and low productivity are quality problems because they put up the cost of what is being made without improving the quality.

* reducing costs is something which quality circles have proved to be very good at. (Cost reductions is a fairly complex area which we're not going to cover in depth in this unit, but if you'd like to know more about it you could look at the Cost Reduction unit in this Series).

EXTENSION 2
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* when the programme gets underway, circle leaders will need to know about some of the statistical and quality control techniques we've looked at in the last section. Circle leaders may need other techniques to deal with specific problems in their working environment. Someone from quality control should be well placed to find out about needs in this area.

The last person we mentioned was someone from production.

ACTIVITY 29
Time guide
3 mins

Jot down one reason why you think someone from production might be involved at an early stage.

* _____

_____

Someone with a knowledge of what goes on in production should be well placed to find out which areas would most benefit from the pilot programme. In other words, there will need to be a decision made about which areas to start the circles up in at the beginning of the programme.

So, each of these people could make a special contribution towards finding out about the firm and the best approach to quality circles.

So now we can suppose that we've set up a team to look into how quality circles could be introduced. Their first problem will be getting together all the information they need about what quality circles can do.

ACTIVITY 30
Time guide
3 mins

How do you think they can find the information they want about quality circles?

Write down three ways they could try

* _____

* _____

* _____

There are a number of suggestions you could have made. I've listed some of the main ways below:

* books

* magazines

* magazine articles

* conferences

* seminars offered by outside consultants

* try to find a company which already operates quality circles and see them in action.

Once our team has finished its task of finding out about quality circles and how they may fit in to the company, a formal presentation needs to be made to top management. The areas covered should include the following:

* what funds are needed

* the benefites which would be expected to result from introducing quality circles

* any disadvantages of introducing quality circles

* any problems that may arise in operating quality circles

* suggestions as to how many circles to begin with and where

* what the training needs will be at all levels

* what the aims and objectives of the quality circle programmes should be

Different organisations may have additional requirements to these, but this is a basic list of what's required.

Hopefully after all this, the approval of top management will be gained, and the programme can begin to develop. The material and information collected by our initial team should be helpful in this development.

At this stage the programme needs a coordinator. One of his first tasks will be to try and involve potential facilitators and form a steering committee. Once the steering committee is functioning it can make more detailed plans and aim for particular goals. For example, it might decide to start three circles in a certain area within three months and train twenty five people. It might decide to prepare training material for middle managers or circle leaders. The coordinator and steering committee will be involved in a lot of planning and preparation, and developing training material is one of the big jobs involved in getting quality circles into action.

If all the preparations go well at this stage when the steering committee has prepared enough training materials and got their plans underway the next stage involves putting the plans into action.

The next step is to present the quality circle plans to the management and the unions. Once it has gained their support, the ideas can be presented to the people who might form the first groups. As the volunteers come forward the training can begin. After this the circles can be formed. They are likely to need a lot of support in the early stages, and the steering committee should review and monitor progress regularly.

So we can finish this section by a self check to summarise what we've said so far about the stages involved in introducing quality circles.

SELF CHECK 13
Time guide
5 mins

Complete the following statements with a suitable word or group of words.

The stages of introducing quality circles are:

1 Appoint a _____ to find out about quality circles (in manufacturing industry this might typically comprise representatives from _____ _____, _____ _____ and _____.)

2 The team prepares a _____ for top management.

3 When management approval is obtained a _____ and a _____ _____ are appointed.

4 Quality circle plans are presented to _____ and _____.

5 _____ are found for the first groups.

6 Once people have come forward to join groups _____ can begin.

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. The stages of introducing quality circles are firstly to appoint a team to find out about quality circles. In manufacturing industry this might typically comprise representatives from industrial relations, quality control and production. Next the team prepares a presentation for top management and, once approval is obtained, a coordinator and steering committee are appointed. When they are ready, they present their plans to management and the unions and then they have to wait for volunteers to come forward to form the first groups. Once enough people have volunteered to form the groups, training can begin.

If the organisation starts small procedures slowly, the circles stand a better chance of success. Backup is more likely to be available when it's needed, and training materials, which are an important part of the programme, shouldn't be in short supply.

6 Summary

In order for quality circles to work

- the environment must be right
- the commitment must be there
- participation must be voluntary

Quality circles use the following techniques:

- Brainstorming
- Tally sheets
- Check lists
- Pareto charts
- Pareto diagrams
- Cause and effect diagrams
- Control charts
- Giving management presentations

The stage in introducing quality circles are:

- Find a small team of people from suitable areas of the organisation to do the initial research work
- The team prepares a presentation for top management
- When management approval is gained find a coordinator
- Form a steering committee to develop firm plans and materials
- Present the plans to management and unions and gain their acceptance
- Find volunteers for the first groups
- Start training
- Form groups
- Review and monitor progress

To be successful START IN A SMALL, LOW-KEY WAY

PART C THE BENEFITS

1 Introduction

In this part of the unit, we'll look at the benefits of successful quality circles and how to judge them. We've concentrated so far on the more technical aspects of quality circles - roles, functions and requirements, introducing them and basic techniques. So, at this point we should stress the fact that quality circles are groups of people and they have an effect on the working lives of the people who get involved.

2 The Benefits of involvement

Quality circles are a good way of getting people involved in their work and give them the chance of getting to know their colleagues better. In other words they encourage team work. They can also help people who are quiet or shy to develop enough self confidence to present their ideas. Often such people give a great deal of thought to their ideas and can make very valuable contributions. The management presentations give everyone in the circle a chance to develop and show presentation and other skills, and the groups often grow into very cooperative, friendly working teams. Members get to know each other on a friendly level and the good atmosphere usually lasts if the circle leader manages the group effectively. The quality circles help people to develop skills they perhaps never realised they had, for example using problem solving techniques.

3 Benefits to Supervisors

Quality circles can offer a particular benefit, beyond those we've just mentioned, to supervisors who often feel that, as far as leadership and authority are concerned, they are in a weak position. Here's an example of what I mean.

ACTIVITY 31
Time guide
4 mins

Suppose you are a supervisor in a highly technical industry - manufacturing ultra-high quality aluminium printing plates and printing chemicals for example. All the managers and process control engineers are technical graduates - you are not though you have gained a wealth of experience from working in the company for fifteen years. All your workteam are union members and the branch is very active.

Who do you think might 'squeeze' your authority over and leadership of your workteam?

You could well find your authority squeezed by technical specialists who could overrule your decisions and unsettle the workteam's attitude to your authority.

You could also find that the shop steward becomes the unofficial leader of the workteam - the one they turn to for guidance and direction - which is a role that a supervisor would once have expected to fill.

Now we're not suggesting that the authority and leaderships of all supervisors is weakened by specialisation and shop steward representation, but it is a common thing to happen in large heavily unionised organisations. You may or may not have experienced these problems yourself depending on where you work. We're not going to go into any detail about leadership in this unit because our main concern here is how quality circles often improve the position of the supervisor as leader of the work team, and provide a firmer basis for his authority. If you'd like to explore the problems of leadership further, we're inviting you to take up these extensions to other units in this series cover team leading and the nature of authority in detail.

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We can say, though, that

- if the supervisor takes a training role with respect to circle members, this can form a basis for specialist authority

- if the supervisor takes the position of quality circle leader then leadership status is strengthened not only among the members of the work team, but also with higher management who will recognise his leadership role in their dealings with the quality circle group.

So quality circles give a supervisor a chance to use authority and leadership skills and develop the potential of circle members. In some organisations this can go a long way towards helping the supervisor caught up in the web of shop steward leadership and specialist authority.

4 The importance of publicity

We've already suggested that publicising circle activities is important but why is this so?

_____

_____

ACTIVITY 32
Time guide
3 mins

Think about why publicity can be important to the success of a quality circles programme. Jot down two suggestions.

* _____

_____

* _____

_____

_____

_____

There are a number of suggestions you could have made. In the last section we suggested that publicising successes can encourage volunteers for future quality circles. For the circle members themselves, it provides encouragement to have their achievements known about. This can often spur people on to other and sometimes more ambitious projects. Though one of the tasks of a circle leader is to try and make sure that over-enthusiastic quality circle groups don't over-reach themselves, because failure could be damaging.

Dealing with publicity is something which needs to be handled carefully if it is to both inform people about what is happening and encourage a positive attitude towards circle programmes. Some organisations have seen their quality circle programmes die because of badly handled publicity. There are a number of ways in which quality circles can be publicised, promoted and communicated to people in the organisation so as to provide encouragement to circle members and non circle members in a friendly way, often using existing ways of communicating within the firm.

ACTIVITY 33
Time guide
3 mins

Jot down two ways in which you would bring the achievements of your quality circles to everybody's attention if you were responsible for publicity in your work place.

* _____

_____

* _____

_____

Again, there are many things you could have suggested including:

* inviting management to presentations

* posters and slogans

* project displays

* newsletters

Let's take a closer look at some of the methods which have been successful in companies with active working quality circle programmes.

4.1 Management attendance

Middle and even sometimes senior management attendance at quality circle presentations is seen to be important by most organisations. This gives circle members the opportunity to show their achievements to management. It's important that managers show their approval and support openly and give the groups encouragement. The management presentations give managers an ideal chance to support, encourage, promote and exchange ideas on quality circle activities. An additional element which can be built in to the management presentation as a means of promoting circle activities is for the circles to receive a formal thank you letter. Putting their appreciation of the members' efforts in writing can reinforce the support the managers are able to give at presentations which provides further encouragement.

4.2 Posters and Slogans

These are very easy to make and can be put on notice boards. Often circle members themselves prepare them to help show what cooperative groups can achieve.

4.3 Project displays

A display cabinet giving more detail about individual problems, how they were solved and how solutions were implemented. This can attract the attention of people at various levels and in a number of areas of the organisation.

4.4 Newsletters

Newsletters are commonly found in organisations with active quality circles. These can help to promote enthusiasm amongst non quality circle members, as well as generate an amount of friendly rivalry between different circles. Some organisations give small gifts to the circles with the most successful project every so often to encourage this kind of friendly competition.

There are many different ways of publicising and promoting quality circles. In the long run, the organisation needs to adopt those methods which work best for it, and achieve as much involvement as possible. Publicity activities connected with quality circles can have the added benefit of improving communications in the organisation generally.

Let's review some of the main points we've made about publicity by this self check.

SELF CHECK 14
Time guide
5 mins

Complete the following statements with a suitable word or group of words.

a Publicising quality circle successes provides _____ for circle members and helps to stimulate interest in quality circles in possible future members.

b A circle leader needs to be careful that his members don't get _____ and try to tackle problems they can't handle. _____ can be damaging.

c Publicity helps _____ people about what is happening in the quality circle groups.

e Management presentations give quality circle members an opportunity to _____ their achievements to management.

Management presentations give managers a chance to support, encourage, exchange ideas and promote quality circles _____.

f There are many ways of publicising circle activities. Three examples might include

* _____
* _____
* _____

g Publicity surrounding quality circles can help to improve _____ throughout the organisation.

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. Don't worry if the words you choose are not the same as mine so long as your completed sentence has the same or a very similar meaning. My choice for statement a) would be 'encouragement'. In statement b) the words I would choose are 'over-ambitious' - 'failure'. It's important to remember that while successis a boost to a quality circle programme, failure can be very damaging. In statement c) suitable words would include things like 'inform' or 'tell'. Suitable words for statement d) would include 'show' or 'display'. My choice for statement e) would be 'openly'. It's not enough for management to just support quality circles, they must do it openly and be seen to support them if they are to encourage present and future involvement. Statement f) asked for three examples of ways in which quality circle activities could be promoted. In this section of the unit we've mentioned posters, slogans, management presentations, project displays and newsletters. There are many other ways including meetings, social activities, periodic conventions or gatherings. So long as you thought of three suitable methods, your answer will be suitable. The word I would have chosen for the last statement is 'communications'. By increasing contacts between management and shop floor people, publicising what goes on in quality circles and helping to create more interest in what's happening in other areas of the organisation quality circles can often improve communications generally.

Successful publicity will help to improve participation in circle activities.

5 Assessing the Benefits

In this part of our unit, we've tried to make the point that quality circles can have a good effect on the people in an organisation and the working atmosphere. So, when it comes to looking at the benefits of quality circles, it's difficult to measure them in straight financial terms. Nonetheless, some of the benefits can be measured like this. Perhaps the most usual benefit people expect to gain from quality circles is better quality products.

ACTIVITY 34
Time guide
3 mins

Write down one way in which we might assess improvements in quality. (It doesn't matter whether your job is in manufacturing or providing some kind of service - we are all looking for measurable improvements in the quality of what we do.)

* _____

_____

_____

This is one area which can be looked at from the point of view of costs and figures. Typical responses would include measuring the extent of the savings in scrap, rejected products or faulty parts. We could also measure how much re-working had been reduced by quality circle activities. In an area of business dealing with the customer we could measure falls in the number of customer complaints. Servicing departments could measure any reductions in the number of products returned for repairs. Quality circles in some companies have tackled the problem of how to produce the same quality products at a lower cost. In others they've looked at how to improve productivity. Things like this are quite easily measured.

For example, here's a list of some of the cost savings which have been claimed by FIVE companies through quality circle activities. The information has been obtained from a variety of sources.

1 ROLLS ROYCE

- By reducing the number of defects in a welding operation quality circles saved the company about £60,000 each year.

- By reducing scrap rates on a machining blade used in making the RB 211 engine quality circles saved the company about £26,000 each year.

2 WESTINGHOUSE

- A quality circle project looking at the problems of purchasing materials saved the company about $636,000

3 A Norwegian Steel company, which preferred not to be named in a Times article on 13/1/81, claimed that a very simple and cheap change in a production process reduced the number of damaged coils it produced. They estimated that this would save about $48,000 each year.

4 FEDERAL PRODUCTS CORPORATION

- Projects which looked at lighting factors and overdue orders saved the company about $13,000 each year.

5 BRITISH LEYLAND

Has given five examples of quality circles projects which help to show that measurable savings can be both large and small.

- About £164,450 each year was saved by a project which saved time by solving a problem over conflicting job instructions

- About £71,363 each year was saved by solving a problem over loading precision tools

- One project stopped oil leaks contaminating materials saving about £1,800 each year

- A project leading to improvements to a grinding process saved about £102,000 each year

- A project which led to better ship loading methods saved £3,236 each year

So, a lot of benefits from a quality circle's activities can be assessed in money terms. Sometimes savings are small, but sometimes they can be quite big. The companies which have given their estimates in dollars show quite big savings, but we shouldn't assume that just because savings are small in a lot of projects, the benefits are not great. Not all quality circles have the same opportunities. And, in any case, it's very difficult to put a figure to some of the benefits of a successful quality circle's programme.

ACTIVITY 35
Time guide
3 mins

Write down one benefit which might not be so easily measured in figures.

* _____

_____

_____

There are a number of suggestions you could have made. Typical responses might include things like:

* better communications within the organisation
* easier relations between the shop floor and management
* more enthusiasm or better attitudes towards the job
* more cooperation between people
* people feeling happier at work because they feel they're achieving something through quality circles
* people having more confidence in themselves

Some companies have suggested that quality circles have in part contributed to less absenteeism, fewer grievances, better industrial relations and lower labour turnover. Claims such as this are difficult to prove, but these benefits could occur if people are happier at work.

SELF CHECK 15 Decide whether the following statements are true or false.
Time guide
5 mins

a There are two quality circles operating in a certain section of a manufacturing plant. In a year the first tackled problems which saved the company £80,000. The second tackled problems which saved the company £65,000. The first is a better quality circle. TRUE/FALSE

b The best way of assessing the benefits of quality circles is to look at how much money they save the organisation. TRUE/FALSE

c Savings in scrap, lower defect rates, and fewer returned products are examples of possible outcomes from quality circle projects which can be assessed in terms of money saved. TRUE/FALSE

d Quality circles can bring benefits to the organisation by improving communications and cooperation. TRUE/FALSE

e Quality circles are unlikely to lead to better attitudes towards the job. TRUE/FALSE

f Some supervisors work in companies where shop stewards deal with a lot of managers and shop floor people. If they take on the role of circle leader this can make their role as leader of the workteam easier. TRUE/FALSE

The answers to this self check are here in the following words, so you'll need to check out your answers carefully. My choice for statement a) would be false. We said earlier in the section that the financial savings achieved by quality circles can be big or small. Not all quality circles have the same opportunities to make big savings, but this doesn't mean that they're not of great benefit to the company and the people who participate. Again for statement b) my choice would be false. We've seen in this part of our unit that quality circles can benefit the people in an organisationin ways which we can't easily measure in money terms. Improvements in the working atmosphere, better communications and cooperation, and better staff relations are examples we've noted in the unit. You could probably add a lot more to our lists. My choice for statement c) would be true. We can assess all these outcomes in money terms, but as we've tried to stress in our first statement this shouldn't be the only way in which we assess a quality circle's activities. My choice for statement d) would be true. These are frequent benefits arising out of quality circle activities. My choice for statement e) would be false. If the quality circle programme is a success it often does improve attitudes towards the job, and sometimes the company too. My response to statement f) would be true. We've looked at the role of a supervisor, and seen how the role of the shop steward in a heavily unionised workplace could make his job more difficult. We also suggested that quality circles could improve things for a supervisor in such a position in a number of ways.

So, assessing the benefits of quality circles is no easy matter. Organisations can point to money savings, but the ways in which people benefit are harder to measure.

I hope you've found this basic outline of the benefits you might expect from quality circles encouraging and interesting. However I must stress that it is just a basic outline. If you'd like to know more about these and other benefits arising out of quality circle activities you might like to take up our last extension.

EXTENSION 5
Page 68

6 Summary

People who are involved in quality circles:

develop self-confidence
improve team work
develop skills
improve communication
improve the work atmosphere
enjoy feeling they are making a useful contribution

Publicising quality circles:

encourages existing circles
encourages people to join new circles

Publicity can take the form of:

posters and slogans
project displays
newsletters
meetings and presentations to management

Active and open support of management:

encourages existing circles
makes people take quality circles seriously
encourages people to join new circles

Quality circles can lead to:

reduced costs
improved quality
better communications
better staff relations
better cooperation

PART D PERFORMANCE CHECKS

Time guide
60 mins

1 End Check

You may review your understanding of the unit as a whole by completing this group of questions. DON'T GUESS THE ANSWERS - if you're not sure, flick back into the unit and check before responding.

If you're still unsure put a question mark against your response before proceeding.

TRUE/FALSE

Respond to each statement by writing either true or false in the space provided.

1 Quality circles are basically small groups of people, normally from the same section, who meet regularly to discuss quality control problems and solutions, normally under the guidance of their supervisor. _____

2 Quality circle members should be carefully selected and appointed by the circle leader. _____

3 A one hundred percent inspection system would make sure that customers never received faulty products. _____

4 Quality needs to be thought of in very broad terms. It doesn't simply refer to the quality of a finished product. _____

5 As a supervisor you are concerned with quality whether your workteam makes something or provides a service. _____

6 The quality control specialists are best placed to identify and solve shop floor problems. _____

7 Quality circles can be an effective way of developing the skills and ability of people in the organisation. _____

8 Quality circles can help to generate an awareness of the need for everyone in the organisation to be concerned about quality. _____

COMPLETION

Respond by completing each sentence with a suitable word or words.

9 The inspection method of quality control detects defects after they've happened. It is not a _____ measure.

10 The supervisor can often be sandwiched between the shop floor and management. Often managers are specialists and the supervisor can lack specialist knowledge. This can sometimes weaken the _____ of the supervisor.

11 The supervisor can also be sandwiched between the work team and the shop steward. In some places management communicate directly with shop stewards, which can sometimes weaken the _____ role of the supervisor.

12 As the normal line manager of the area from which a quality circle comes, the _____ is often an ideal person to take on the role of the circle leader.

13 The person who takes on the role of quality circle helper is often called a _____.

14 The person who administers the quality circle programme, acts in a public relations role and helps to make sure that the aims and objectives of the programme are achieved is often called the _____.

15 The _____ _____ makes decisions about policy relating to quality circle programmes, considers budgets for training and plans the quality circle programme in the light of the need to coordinate all the activities of the organisation.

16 _____ _____ may be formed with a circle member as leader to investigate specific problems.

MULTIPLE CHOICE

Respond to each question by putting a mark against the ONE answer which is most correct.

17 Brainstorming is best described as

a) A data collection technique

b) A way of analysing possible causes

c) A problem solving technique

d) A way of generating creative ideas from a group

18 During brainstorming sessions -

a) Group members express as many ideas as possible

b) No effort is made to criticise ideas

c) Every idea, however silly it may seem, is noted down

d) All of these things happen

19 Quality circles are

a) Not always suited to a company's working environment

b) Not suited to retailing

c) Not suited to service industries

d) Not suited to distribution

20 A tally sheet is

a) A data collection technique

b) A way of analysing problems

c) A problem solving technique

d) A way of presenting a solution

21 The Pareto Principle tells us that

a) The cost of scrap is likely to be spread fairly evenly throughout a plant

b) Defective products are likely to come from all areas of the production process

c) Most of the cost of scrap is likely to arise from a fairly small number of parts or processes

d) The areas in which scrap is highest are easily identified and unlikely to vary.

22 Cause and effect diagrams can provide a problem solving framework by grouping possible causes of problems together under certain headings such as

a) Men or machines

b) Methods or materials

c) All of the above

d) None of the above

23 A process control chart can tell us that urgent action is needed when production falls outside

a) The target area

b) The lower tolerance limit

c) The lower warning limit

d) The upper warning limit

24 Assessing the performance and effectiveness of quality circles

a) Is a matter of measuring their cost savings

b) Can be done by looking at the number of successfully completed projects by each circle

c) Is not a simple matter because some of the benefits cannot easily be measured in numerical or money terms

d) Allows us effectively to compare one group with another

Audio Tape Side 2

END CHECK - Checkout

The answer and explanations for these End Checks are on Side 2 of our Audio Tape. Have your responses with you as you play this tape. As you listen you can check out how well you have done and make notes as you proceed.

2 Tutor Check

Time guide
60 mins

You and your family are disorganised in the mornings and this is causing a number of problems which are beginning to get on your nerves. We'll list the most serious ones.

a As everyone is in a rush sometimes no-one remembers to let the dog out first thing. When this happens the dog protests by chewing up the morning mail.

b Your teenage son has too many late nights. You've been late for work on occasions trying to get him up in time to get a lift from you in the morning. This worries you because you don't want him to loss his job. As it is, he sometimes loses pay through absenteeism.

c Your wife, after several years of trying to prepare breakfast for everyone, has finally given up and left you all to your own devices. She's fed up with the complaints about over-cooked egg, burned bacon and stewed tea. She's also been complaining that no-one ever makes an effort to tidy things up and wants a dishwasher. For the last couple of weeks no-one has had a cooked breakfast in the morning, and your son has broken so many breakfast dishes in his efforts to make and clear up his own breakfast that you're beginning to think it might be cheaper to buy the dishwasher in the long run.

Now tackle the following questions.

1 Describe how you might decide which problem is most serious using

a) a tally sheet

b) a check sheet

Draw an example of each.

2 Draw a Cause and Effect diagram for problem c.

3 Describe how you might organise possible causes within your Cause and Effect diagram.

4 If you had used these quality circle techniques to solve a work problem, then your quality circle would need to give a management presentation.

Describe the steps you would take to make sure that your quality circle group gave a successful presentation.

Send to tutor

Now get your answers to your study tutor either by post or handing it over personally. You will receive your tutor's assessment and comment back through the post as soon as can be managed.

3 Work Based Project

Time guide
60 mins

1 If you can find some willing members of your work team, hold a quick brainstorming session to get ideas of the problems in your work area. If not, try to think of some yourself.

2 Say how you conducted, or how you would have conducted, the brainstorming session.

3 Over the course of a couple of days keep a check on how many times 4 of these problems occurred using tally sheets.

4 Using the data from your tally sheet draw up a Pareto chart showing the number of times each problem occurred.

5 On the basis of the information you've collected say which of the four problems you would like to see tackled by a quality circle in your area of work.

Send to tutor

Now send your answers, tally sheets and Pareto chart to your study tutor either by post or handing it over personally. You'll receive your tutors assessment and comment back through the post as soon as can be managed.

PART E UNIT REVIEW

1 Return to Objectives

Having completed your work on this unit let's review how you feel about each of our four opening objectives. I'll repeat them here and add comment.

You should be better able to:

* **UNDERSTAND WHAT QUALITY CIRCLES CAN ACHIEVE**

Quality circles are a means of improving the quality of the goods or service that you offer - quality in its broadest sense. It isn't simply a question of reducing the number of reject items or customer complaints. Whatever will contribute to smooth, efficient operations in your work place which will ultimately enable you to do a better job is quality.

Quality circles are a means by which all the good ideas, expertise and team work which you can find at all levels can be put to good effect - and provide a lot of satisfaction to the people involved in so doing.

You should be better able to:

* **EVALUATE THE BENEFITS AND PROBLEMS OF INTRODUCING AND RUNNING QUALITY CIRCLE GROUPS**

As we've seen, a supervisor is a likely candidate for a quality circle leader so you may find yourself directly involved in an important role. I hope what we've discussed in this unit has helped you decide whether you could run a quality circle and what training you would need to enable you to do it. Running a quality circle isn't easy, especially in the beginning, but I hope that you can see the possibilities for it in your workplace and can see being a quality circle leader as a useful development in your career.

You should be better able to:

* **USE THE BASIC TECHNIQUES FOR INVESTIGATING PROBLEMS WHICH QUALITY CIRCLES ADOPT**

In the unit we've looked briefly at some of the techniques, such as brainstorming, the Pareto Principle and cause and effect diagrams which quality circles use to generate ideas and to investigate problems. You may well feel that you'd like more training before you run a quality circle yourself, but I hope you have found that the techniques we've looked at are simple to apply and that you may be able to use them in your present job whenever you need to think through a problem or identify a number of problems and solutions.

You should be better able to:

* DECIDE WHETHER OR NOT QUALITY CIRCLES COULD BE HELPFUL TO YOU AND TO THE MEMBERS OF YOUR WORK TEAM

As we've seen, conditions have to be right for quality circles to succeed. Not least, you need commitment and support at all levels. I hope what we've said has allowed you to look objectively at your own workplace and decide whether quality circles would work or, perhaps, how your existing quality circles programme could be improved.

Perhaps as you've worked through the unit, you have thought of problems in your own workplace which might benefit from being dealt with by a quality circle and you can foresee that, if you could get a few willing people together on the problem in an organised way, you could crack the problem, improve quality and reduce costs.

As well as that, I hope this unit has also made you aware that setting up a quality circle could also bring you and your workteam other benefits. Your own position, if you are a circle leader, could be strengthened and the team spirit created and the satisfaction of solving a problem together could increase the job satisfaction considerably for you and your work team.

I hope that the work you have done was enjoyable and useful enough to encourage you to continue in your studies.

2 Extensions

I recommend that you take up as many of these extensions as you can. They will further increase your understanding and interest. You will also be able to check out a number of the ideas that I mention in the Unit. The extra time and effort will prove very worthwhile.

EXTENSION 1	Book:	Quality Circles in Action
	Author:	Mike Robson
	Publisher:	Gower
EXTENSION 2	Choice Unit:	No 72
	Title:	Cost Reduction
	Author:	Roger Holmes
	Publisher:	Northern Regional Management Centre
EXTENSION 3	Choice Unit:	No 14
	Title:	Team leading
	Author:	W Tait
	Publisher:	Northern Regional Management Centre
EXTENSION 4	Choice Unit:	No 18
	Title:	Supervising with authority
	Author:	H McLaughlin
	Publisher:	Northern Regional Management Centre
EXTENSION 5	Book:	Quality Circles - A Practical Guide
	Author:	Mike Robson
	Publisher:	Gower

These extension opportunities can all be taken up via your Support Centre.

They will either have the materials or will arrange that you have access to the materials. However it may be more convenient to check out the materials with your Personnel or Training people at work - they may well give you access. There are other good reasons for approaching your own people, for example they will become aware of your interest and you can involve them in your development.

3 References

REFERENCE 1	Journal:	The Production Engineer
	Article:	Quality Circles - Japan's way to better quality
	Date:	November 1979
REFERENCE 2	Book:	Quality Circles - a practical guide
	Author:	Mike Robson
	Publisher:	Gower
REFERENCE 3	Video:	Quality Circles
	Maker:	British Leyland
REFERENCE 4	Book:	Quality Circles - a practical guide
	Author:	Mike Robson
	Publisher:	Gower

These references can all be taken up via your Support Centre. They will either have the materials or will arrange that you have access to the materials. However check with your Personnel or Training people at work - they may well give you access. There are other good reasons for approaching your own people, for example they will become more aware of your interest and you can involve them in your development.

If you do wish to make use of these references then don't think that you must read them right through. Just dip into them for a slighly wider treatment of the topic raised by the unit.

I should warn that the language and style of the writing is often difficult to cope with. So don't struggle with it too much. Do what I do when in difficulty, put the book back on the shelf and find a better one!

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12 Enriching Work
13 Workteams
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15 Leading Change
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